

**AMENDMENTS TO THE SPECIFICATION:**

***Please insert the following line beginning at page 1, line 2:***

--This application is a Divisional of U.S. Serial No. 09/358,252, filed July 20, 1999.--.

***Please replace the paragraph beginning at page 1, line 5, with the following rewritten paragraph:***

The present invention relates to an apparatus for manufacturing semiconductor ~~device~~ devices, and more particularly to an apparatus for manufacturing semiconductor ~~device~~ devices which is not required to be installed in a clean room and is capable of processing semiconductor wafers in a clean atmosphere without exposure to external environments.

***Please replace the paragraph beginning at page 1, line 12, with the following rewritten paragraph:***

In manufacturing semiconductor devices, fine particles such as dust particles in the air affect both the quality of products and the yield of products. Therefore, various processes of ~~the~~ semiconductor device fabrication are carried out in a clean room in which dust particles in the air are removed to extremely high level.

***Please replace the paragraph beginning at page 1, line 18, with the following rewritten paragraph:***

However, since a clean room used for the fabrication of semiconductor devices takes up a relatively large space ~~area~~, installation of a clean room incurs a considerable initial cost. In addition, a considerable running cost is required to keep the entire clean room at a desired level of cleanliness continuously. The clean room is well suited for the purpose of creating a large clean space and maintaining the large clean space under the same environment in its entirety. However, if it is necessary for various different processes of the semiconductor device fabrication to create different atmospheres or environments, then the clean room is unsuited for creating such different individual atmospheres or environments.

***Please replace the paragraph beginning at page 2, line 5, with the following rewritten paragraph:***

It is therefore an object of the present invention to provide an apparatus for manufacturing semiconductor ~~device~~ devices which is not required to be installed in a clean room and is capable of processing semiconductor wafers in a clean atmosphere without exposure to external environments.

***Please replace the paragraph beginning at page 2, line 11, with the following rewritten paragraph:***

In order to achieve the above object, according to the present invention, there is provided an apparatus for manufacturing semiconductor ~~device~~ devices comprising: an enclosing structure defining a closed space isolated from an external environment; a purifying system for keeping the closed space clean; a processing device disposed in the closed space for processing a semiconductor wafer; and a pressure elevating device for keeping an internal pressure high in the closed space so as to be higher than a pressure in the external environment.

***Please replace the paragraph beginning at page 2, line 21, with the following rewritten paragraph:***

The enclosing structure keeps the closed space isolated from the external environment, and the internal pressure in the closed space is maintained at a level higher than the pressure in the external environment to maintain a desired level of cleanliness in the closed space. Therefore, the apparatus can be installed in its entirety in the external environment whose ~~contaminated~~ contamination level is similar to those in ordinary room spaces. The enclosing structure may comprise a housing.

***Please replace the paragraph beginning at page 3, line 3, with the following rewritten paragraph:***

Consequently, the apparatus is not required to be installed in a clean room, and can process semiconductor wafers in a clean atmosphere without exposure to the external environment. Even if the apparatus is installed in the external environment, the closed space therein can be kept at the same level of cleanliness as in usual clean rooms used for semiconductor fabrication. The apparatus for manufacturing semiconductor ~~device~~ devices may preferably comprise a polishing apparatus.

***Please replace the paragraph beginning at page 3, line 19, with the following rewritten paragraph:***

FIG. 1 is a perspective view of a polishing apparatus as an apparatus for manufacturing semiconductor ~~device~~ devices according to the present invention;

FIG. 2 is a plan view of an internal structure of the polishing apparatus shown in FIG. 1;

FIG. 3A is a schematic perspective view of a purifying system in the polishing apparatus;

FIG. 3B is a perspective view of a filter unit of the purifying system;

FIG. 4A is a plan view of a layout of a polishing apparatus shown in FIGS. 1 through 3A and 3B;

FIG. 4B is a plan view of another layout of polishing apparatus shown in FIGS. 1 through 3A and 3B;

FIG. 5 is an elevational view of a purifying system in the polishing apparatus; and

FIG. 6 is an elevational view of a purifying system in the polishing apparatus.

***Please replace the paragraph beginning at page 4, line 14, with the following rewritten paragraph:***

Recent rapid progress in semiconductor device integration demands smaller and smaller wiring patterns or interconnections and also narrower spaces between interconnections which connect active areas. One of the processes available for forming such connection is photolithography. Though the photolithographic process can form

interconnections that are at most 0.5  $\mu\text{m}$  wide, it requires that surfaces on which pattern images are to be focused by a stepper be as flat as possible because the depth of focus of the optical system is relatively small. However, conventional apparatuses for planarizing semiconductor wafers such as a self-planarizing CVD apparatus or an etching apparatus fail to produce completely flat surfaces on semiconductor wafers. Recently, it has been attempted to planarize semiconductor wafers with a polishing apparatus which is expected to achieve complete planarization of the semiconductor wafers with greater ease than the above conventional apparatuses. Such a process is called Chemical Mechanical Polishing (CMP) in which the semiconductor wafers<sup>5</sup> having semiconductor devices thereon are chemically and mechanically polished while supplying an abrasive liquid comprising abrasive grains<sub>a</sub> and chemical solution such as an alkaline solution.

***Please replace the paragraph beginning at page 5, line 12, with the following rewritten paragraph:***

As shown in FIG. 1, the polishing apparatus is provided with a housing H, and the interior of the polishing apparatus is isolated from an external environment K which is an ordinary environment that is not treated by any purifying system. That is, the external environment K is different from the internal environment of ~~the~~ a clean room and is not kept clean. The housing H constitutes an enclosing structure capable of containing and preventing an atmosphere within the enclosing structure from escaping therefrom to the exterior environment K.

***Please replace the paragraph beginning at page 7, line 10, with the following rewritten paragraph:***

The polishing section 1 also has a dressing unit 8 having a dresser 7. The dressing unit 8 is angularly movable to selectively bring the dresser 7 to a dressing position over the turntable 2 and a standby position off the turntable 2. The dresser 7 is coupled to an electric motor and a lifting/lowering cylinder (both not shown), and can be rotated about its own axis by the electric motor and lifted and lowered along a vertical axis by the

lifting/lowering cylinder. In the polishing section 1 having the above structure, a semiconductor wafer is held by the top ring 3 and pressed against the polishing cloth 5. While the turntable 2 and the top ring 3 are rotated, the lower surface of the semiconductor wafer is brought ~~in~~ into sliding contact with the polishing cloth 5. At this time, an abrasive liquid is supplied onto the polishing cloth 5 by the abrasive liquid supply nozzle. Therefore, the lower surface of the semiconductor wafer is polished by a combination of a mechanical action of fine abrasive grain particles contained in the abrasive liquid and a chemical action of an alkaline or acid solution contained in the abrasive liquid.

***Please replace the paragraph beginning at page 7, line 23, with the following rewritten paragraph:***

When ~~the~~ a predetermined amount of material is polished and removed from the semiconductor wafer, the polishing process is completed. After completing the polishing process, since the characteristics of the polishing cloth 5 change and the polishing capability of the polishing cloth 5 is deteriorated, the polishing cloth 5 is dressed by the dressing unit 8.

***Please replace the paragraph beginning at page 11, line 6, with the following rewritten paragraph:***

The internal pressure in the loading/unloading section 20 is the highest, the internal pressure in the cleaning section 20 is the highest, the internal pressure in the cleaning section 10 is the second highest, and the internal pressure ~~in~~ at the polishing section 1 is the lowest. This is because the cleanliness needs to be kept in levels higher successively in the polishing section 1, the cleaning section 10, and the loading/unloading section 20 in the order named.